United States Department of Agriculture | Forest Service | Entomology and Pathology | 2500 S. Pine Knoll Dr. Flagstaff, AZ 86001 FAX: (520) 556-2130

File Code: 3410 Date: August 8, 1997
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Subject: 1997 Insect and Disease Aerial Detection Survey

To: Forest Supervisor, Kaibab National Forest

The annual insect and disease aerial detection survey was conducted over the Kaibab National Forest July 28 - July 31, 1997 by Entomology and Pathology observers. Enclosed you will find maps depicting the forest pest conditions. Please forward one copy of the map and letter to the respective ranger districts. Following is a summary of the results of this survey.

Ponderosa pine mortality caused by Ips beetles and western pine beetle increased from 1996. A total of 622 acres of ponderosa pine mortality was detected this year (115 in 1996, 88 in 1995, and 356 in 1994). Of the mentioned mortality, Ips spp. accounts for 620 acres. Notable pockets of mortality occurred west of Volunteer Canyon and north of Bixler mountain.

Mountain pine beetle caused mortality on the North Kaibab plateau is higher this year than previous years. Mountain pine beetle mortality does appear to be increasing on the Grand Canyon National Park. Mortality is concentrated around "The Basin" to Kanabownits Lookout to the south side of the North Kaibab Ranger District. 10,012 acres of ponderosa pine mortality attributable to this insect was detected.

Significant mortality continues in the true firs along, and south of, Big Ridge on the North Kaibab. 898 acres of mortality was mapped this year (1478 acres in 1996, 1482 acres in 1995, and 1635 acres in 1994). This mortality activity appears to be slowly subsiding. White fir and subalpine fir are both being affected. We feel this mortality continues to be caused by a complex of Annosus root disease, Scolytus beetles, and western balsam bark beetles.

Defoliation of aspen decreased in acreage, with mainly low intensity activity, this season. Most of the defoliation was mapped on the North Kaibab. Forest wide, 909 acres sustained low levels of defoliation. The defoliation is probably attributable to large aspen tortrix and black leaf spot, Marssonina populi. Seasonal defoliations caused by these agents are rarely fatal to the aspen unless they become protracted and chronic.

Defoliation from western spruce budworm increased this year on the south end of the North Kaibab Ranger District. 1087 acres were affected.

Spruce mortality, possibly caused by spruce beetles, was detected on Kendrick Mountain within the wilderness area. The area comprised about 413 acres, (270 acres in 1996, 114 acres in 1995, and 40 acres in 1994).

Mortality of significant numbers of pinyon pine is occurring across the state this season. Approximately 4409 acres of mortality was detected this year on the Kaibab National Forest, 2516 acres on the Tusayan district and 1883 acres on the Chalendar district. We believe this mortality is being caused by the drought stress on the trees from last season which were subsequently attacked by the pinyon ips, Ips confusus.

Approximately 2023 acres of fire related mortality was detected. Residual trees in and around these burn areas are potential sites for future bark beetle attacks. We will attempt to monitor these areas in future aerial surveys and supply data for analysis.

Due to air operations safety concerns, we wish to inform you at this time that we will no longer perform aerial detection surveys for the Tusayan Ranger District and the south rim of the Grand Canyon. Congestion over the Grand Canyon Airport creates significant risks for low level observations. We will continue to perform aerial surveys of the north Kaibab and the Williams and Chalendar districts.

An electronic format copy of this information will be provided to your Land Management Planning for incorporation with GIS. Should you have any questions regarding this survey, or need additional information, please feel free to contact Michelle Frank (520) 556-2072 or Steve Dudley at (520) 556-2071. Thank you.

for Borys Tkacz
Zone Leader
Arizona Zone Entomology and Pathology